OFFICE OF INSPECTOR GENERAL

Catalyst for Improving the Environment

Flash Report

EPA Needs to Ensure the Swift and Successful Completion of the Libby Asbestos Cleanup

Report No. 2007-P-00000

October XX, 2006

OSWER COURTESY COPY
NOT FOR RELEASE

U.S. Environmental Protection Agency
Office of Inspector General

2007-P-00000
October XX, 2006

At a Glance

Catalyst for Improving the Environment

Why We Did This Review

At the request of both Montana Senators, the Office of the Inspector General (OIG) initiated this review of EPA's efforts to clean up amphibole asbestos contamination in Libby, Montana. We are issuing this flash report to bring EPA management's immediate attention to significant issues we identified during our limited review. A flash report conveys significant, time critical issues to Agency management before project completion.

Background

After 1999 media reports called attention to Libby citizens' health problems, EPA officials requested that we review EPA's actions in Libby. In March 2001, we reported that EPA had addressed asbestos contamination at sites other than Libby, but failed to institute regulations or other controls that might have protected Libby's citizens from the health effects of asbestos contamination. In 2002, EPA began an emergency response cleanup of Libby residential and commercial properties.

For further information, contact our Office of Congressional and Public Liaison at (202) 566-2391.

To view the full report, click on the following link: www.epa.gov/oig/reports/2007/20061019-2007-P-0000x.pdf

EPA Needs to Ensure the Swift and Successful Completion of the Libby Asbestos Cleanup

What We Found

In our limited review, we identified the following significant issues that we believe are critical to the successful cleanup in Libby, Montana.

- EPA has not conducted the toxicity assessment of amphibole asbestos necessary to determine the minimum safe level for human exposure; therefore, EPA cannot be sure that the Libby cleanup is sufficient to prevent humans from contracting asbestos-related diseases.
- EPA's documents *Living with Vermiculite* and *Asbestos in Your Home* are inconsistent about safety concerns.

What We Recommend

We recommend EPA:

- Fund and execute a comprehensive amphibole asbestos toxicity assessment to determine the effectiveness of the Libby removal actions and to determine whether more actions are necessary. The toxicity assessment should include the effects of asbestos exposure on children.
- Retract statements regarding the safety of living with or handling asbestos until EPA confirms that fact through a toxicity assessment.

OSWER COURTESY COPY
NOT FOR RELEASE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
INSPECTOR GENERAL

October XX, 2006

MEMORANDUM

SUBJECT: EPA Needs to Ensure the Swift and Successful Completion of the Libby Asbestos Cleanup
Report No. 2007-P-000xx

TO: Marcus Peacock
Deputy Administrator

Susan Parker Bodine
Assistant Administrator, Office of Solid Waste and Emergency Response

Robbie Roberts
Region 8 Administrator

This report contains time-critical issues the Office of Inspector General (OIG) identified during the limited work performed on this review, and proposes corrective actions. This report represents the opinion of the OIG and does not necessarily represent the final U.S. Environmental Protection Agency (EPA) position. EPA managers will make final determinations on matters in this report.

Action Required

Please provide a written response to this report within 30 calendar days. You should include a corrective action plan for agreed upon actions, including milestone dates. We have no objections to the further release of this report to the public. This report will be available at http://www.epa.gov/oig.

You may contact me at (202) 566-0847 or roderick.bill@epa.gov, or Eileen McMahon at (202) 566-2391 or mcmahon.eileen@epa.gov, if you have any questions concerning this report.

Sincerely,

Bill A. Roderick
Acting Inspector General

Purpose

On August 22, 2006, the Office of Inspector General initiated a project to review EPA's efforts to clean up amphibole asbestos contamination in Libby, Montana (Region 8). The impetus for the review was two congressional requests to evaluate whether potential problems exist with the Libby Asbestos National Priorities List (NPL) site cleanup. In our limited work to date, we identified some issues, which we believe to be of imminent concern, and are presenting them in this report. We did not have the opportunity to determine the cause of these problems as is customary in an OIG review.

The preliminary review objective was to determine whether EPA's Office of Solid Waste and Emergency Response (OSWER) and Region 8 personnel developed and executed an effective cleanup based upon Federal requirements that protect human health. Specifically, we intended to:

- Evaluate the cleanup decision documentation for completeness and reasonableness (e.g., cost-effectiveness, sound science, risk assessments); and
- Assess the reliability of documents EPA issued to the public regarding asbestos and the cleanup.

Background

The National Contingency Plan (NCP) governs cleaning up NPL sites. The NCP requires EPA to conduct a remedial investigation and a (baseline) risk assessment for NPL sites. The NCP designates the Agency for Toxic Substances and Disease Registry (ATSDR), a component of the Department of Health and Human Services, as the responsible agency for performing public health assessments for NPL sites. The NCP also states that the responsible agency shall keep the public informed on the cleanup progress.

On May 28, 2003, the ATSDR released the final version of its report, *Public Health Assessment for the Libby NPL site, Operable Unit 4, Town of Libby and Affected Libby Valley Residential and Commercial Properties.* The report concluded that the citizens of Libby were exposed to hazardous levels of asbestos, and that they had associated elevated levels of disease and death. It also recommended that EPA conduct a toxicological investigation (toxicity assessment). (See more information about asbestos in Appendix A, Background of Libby Asbestos.)

OSWER and EPA Region 8 personnel acknowledge the importance of the toxicity assessment. Specifically, Region 8 defines the risk assessment as a formal step-by-step scientific process for quantifying human health risks. Region 8 procedures identify the toxicity assessment as central to completing the risk assessment.

Scope and Methodology

We conducted our review from August 22, 2006, to October 2, 2006. We interviewed EPA's OSWER and Region 8 personnel and obtained documents related to the issues dated from 1990

to 2006. We are issuing this flash report to bring management's immediate attention to significant issues we identified during our limited review. We have not performed sufficient work to determine the root cause of our preliminary findings. However, information from the people we contacted and the material we reviewed was sufficient to bring these preliminary findings to EPA's attention, given the human health consequences of the Libby cleanup (EPA states there were over 200 Libby deaths).

Preliminary Findings

EPA has not completed a risk and toxicity assessment of the Libby amphibole asbestos from which the safe level of human exposure could be determined. Thus, EPA cannot be sure that the Libby cleanup is sufficient to prevent humans from contracting asbestos-related diseases. Also, EPA presented inconsistent positions on safety issues in two documents. One, *Living with Vermiculite,* was issued to Libby residents in October 2003; the other, *Asbestos in Your Home,* is now on the EPA Internet Website.

Risk and Toxicity Assessments

EPA personnel stated that the Libby cleanup was limited to removing the most visible and prevalent signs of danger to the community. But EPA had no way to determine whether the removals fully protected residents from contracting asbestos-related diseases. EPA personnel informed us that this occurred because EPA had not completed an amphibole asbestos risk assessment. A risk assessment includes:

- data collection (site, history, exposure potential, contaminant type and distribution),
- exposure assessment (how much and in what ways exposure can occur),
- toxicity assessment (potential of the contaminants to cause harmful effects to humans), and
- risk characterization (integrates previous steps to calculate risk to humans).

The missing element of the risk assessment is the toxicity assessment. A toxicity assessment is necessary to determine the minimum safe level for amphibole asbestos exposure for humans. OSWER personnel stated that a toxicity assessment could take up to 2 years and should include assessing the effects of amphibole asbestos exposure on children. Although Libby has been on the NPL since 2002, OSWER and Region 8 personnel stated that EPA funded other priorities over the Libby toxicity assessment.

Communication with Libby Residents

Region 8 personnel stated that because EPA does not know the toxicity of amphibole asbestos, EPA cannot substantiate the accuracy of any communication with Libby residents saying that the removal process eliminated the danger of contracting asbestos-related diseases. Region 8 recently changed the leadership of the Libby removal process. The new remedial project manager stated that he has not reviewed all the communications that his predecessor had with Libby residents.

Living with Vermiculite

In *Living with Vermiculite,* EPA recommended that Libby homeowners not disturb asbestos because no guidelines exist on what is or is not safe. However, the document then states that the homeowner would have little risk of exposure if the homeowner handles asbestos to clean up an undefined small release of asbestos, which is inconsistent with the uncertainty of the dangerous levels of exposure. Potentially, Libby homeowners could expose themselves to dangerous levels of amphibole asbestos because they could interpret that document to mean that no significant risks exist.

Asbestos in Your Home

Asbestos in Your Home, a document on the EPA Internet Website, was a product of a workshop with the American Lung Association and the Consumer Products Safety Council. It provides information similar to that found in *Living with Vermiculite.* In this document, EPA defines a small release of asbestos to be no larger than a homeowner's hand. Contrary to the EPA position, the American Lung Association warns that the homeowner should not attempt to remove or repair any level of asbestos. EPA does not address the difference in opinion with the American Lung Association so that homeowners could make a fully informed decision regarding handling asbestos.

Region 8 Developments

EPA Region 8 personnel have begun to address concerns with the Libby cleanup and EPA's communications with Libby residents as evidenced in the minutes of the August and September 2006 Community Advisory Group (CAG) meetings, posted on EPA's Website. Specifically, EPA personnel responded that new information, from a toxicity assessment, might indicate that Libby homes may not be as safe as EPA thought and that EPA may have to do additional cleaning. In addition, EPA personnel agreed to participate in a panel to redraft *Living with Vermiculite* because an audience member stated that the document promoted a lackadaisical attitude towards the asbestos contamination. We believe the actions of OSWER and Region 8 personnel, coupled with our recommendations, will help to ensure a swift and effective cleanup.

Recommendations

1. We recommend that EPA fund and execute a comprehensive amphibole asbestos toxicity assessment to determine how effective the Libby removal actions were and to determine whether additional actions are necessary.

2. We recommend that EPA retract statements regarding the safety of living with or handling asbestos until EPA confirms that fact through a toxicity assessment.

Appendix A

Background of Libby Asbestos

ATSDR is tracking the human health effects of Libby asbestos in 28 locations throughout the country that received over 80 percent of the Libby vermiculite. In *What is Asbestos?*, ATSDR makes the following statements regarding vermiculite and asbestos contamination in Libby Montana.

Vermiculite Production. Zonolite Mountain in Libby produced vermiculite for more than 65 years (until 1990). The mine itself is approximately 6 miles from the town. A transfer facility was located approximately 3 miles from Libby. From the transfer facility, vermiculite was loaded on trains or trucks. Two expansion ("popping") facilities operated at different times within the town; these plants heated vermiculite to approximately 600 degrees Fahrenheit to expand the crystals. One of these facilities was next to a baseball field, which was readily accessible to the community's children.

Types of Asbestos. There are two general types of asbestos, amphibole and chrysotile. Some studies show that amphibole fibers stay in the lungs longer than chrysotile. This tendency may account for their increased toxicity (harmfulness to the body). Regulatory agencies such as EPA and the Occupational Safety and Health Administration recognize six asbestos minerals: chrysotile, a serpentine mineral with long and flexible fibers; and five amphibole (with relatively brittle crystalline fibers) minerals, actinolite asbestos, tremolite asbestos, anthophyllite asbestos, crocidolite asbestos, and amosite asbestos.

Libby Asbestos. Vermiculite is usually free of asbestos. However, the vermiculite ore taken from a mining operation in Libby contained asbestiform (asbestos-like) amphibole minerals, including the regulated forms tremolite and actinolite. The vermiculite also contains winchite, richterite, and ferroedenite asbestos, which the U.S. does not currently regulate. Research has linked all of these forms to asbestos related diseases.

Asbestos Risk Factors. The heating process released asbestos fibers from the vermiculite ore into the air. Inhalation of asbestos fibers suspended in air can result in lung diseases such as asbestosis, mesothelioma, and lung cancer. The risk of developing any of these diseases depends on many factors, including the type of fiber, the level and duration of exposure, and the smoking history of the exposed individual.

Appendix B

Distribution

Office of the Administrator
Assistant Administrator for Solid Waste and Emergency Response
Deputy Assistant Administrator for Solid Waste and Emergency Response
Agency Followup Official (the CFO)
Agency Followup Coordinator
Audit Liaison, Office of Solid Waste and Emergency Response
Deputy Administrator, Region 8
Regional Asbestos Coordinator
Audit Liaison, Region 8
Associate Administrator for Congressional and Intergovernmental Relations
Associate Administrator for Public Affairs
General Counsel
Acting Inspector General